General

Guideline Title

Breast cancer screening.

Bibliographic Source(s)

American College of Obstetricians and Gynecologists (ACOG). Breast cancer screening. Washington (DC): American College of Obstetricians and Gynecologists (ACOG); 2011 Aug. 11 p. (ACOG practice bulletin; no. 122). [54 references] PubMed

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: American College of Obstetricians and Gynecologists (ACOG). Breast cancer screening. Washington (DC): American College of Obstetricians and Gynecologists (ACOG); 2003 Apr. 12 p. (ACOG practice bulletin; no. 42).

Recommendations

Major Recommendations

The grades of evidence (I-III) and levels of recommendations (A-C) are defined at the end of the "Major Recommendations."

The following recommendations are based on limited and inconsistent scientific evidence (Level B):

- Based on the incidence of breast cancer, the sojourn time for breast cancer growth, and the potential reduction in breast cancer mortality, the College recommends that women aged 40 years and older be offered screening mammography annually.

The following recommendations are based primarily on consensus and expert opinion (Level C):

- Clinical breast examination should be performed annually for women aged 40 years and older.
- For women aged 20–39 years, clinical breast examinations are recommended every 1–3 years.
- Breast self-awareness should be encouraged and can include breast self-examination. Women should report any changes in their breasts to their health care providers.
- Women should be educated on the predictive value of screening mammography and the potential for false-positive results and false-negative results. Women should be informed of the potential for additional imaging or biopsies that may be recommended based on screening results.
- Women who are estimated to have a lifetime risk of breast cancer of 20% or greater, based on risk models that rely largely on family history (such as BRCAPRO, BODACEA, or Claus), but who are either untested or test negative for *BRCA* gene mutations, can be offered enhanced screening.
- Breast magnetic resonance imaging (MRI) is not recommended for screening women at average risk of developing breast cancer.

- For women who test positive for *BRCA1* and *BRCA2* mutations, enhanced screening should be recommended and risk reduction methods discussed.

Definitions:

Grades of Evidence

I Evidence obtained from at least one properly designed randomized controlled trial.

II-1 Evidence obtained from well-designed controlled trials without randomization.

II-2 Evidence obtained from well-designed cohort or case-control analytic studies, preferably from more than one center or research group.

II-3 Evidence obtained from multiple time series with or without the intervention. Dramatic results in uncontrolled experiments also could be regarded as this type of evidence.

III Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees.

Levels of Recommendations

Level A - Recommendations are based on good and consistent scientific evidence.

Level B - Recommendations are based on limited or inconsistent scientific evidence.

Level C - Recommendations are based primarily on consensus and expert opinion.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Breast cancer

Guideline Category

Counseling

Prevention

Risk Assessment

Screening

Clinical Specialty

Family Practice

Obstetrics and Gynecology

Oncology

Preventive Medicine

Radiology

Intended Users

Physicians

Guideline Objective(s)

- To review breast cancer screening guidelines and the evidence used to support the recommendations and highlight new screening modalities and controversies surrounding screening
- To aid practitioners in making decisions about appropriate obstetric and gynecologic care

Target Population

Adult women

Interventions and Practices Considered

1. Annual mammography screening
2. Clinical breast examination (CBE)
3. Encouragement for breast self-awareness
4. Patient education on benefits and harms of screening mammography
5. Genetic counseling and testing
6. Enhanced screening, including CBE twice a year, annual mammography, and annual breast magnetic resonance imaging (MRI), for those at increased risk for breast cancer

Note: The following screening techniques were considered but not recommended for routine screening: ultrasonography, magnetic resonance imaging, color Doppler ultrasonography, computer-aided detection, positron emission tomography, scintimammography, and digital breast tomosynthesis.

Major Outcomes Considered

- Breast cancer survival and mortality rates
- Risks and benefits of mammography screening
- Sensitivity and specificity of clinical breast examination
- Risk factors for breast cancer

Methodology

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Hand-searches of Published Literature (Secondary Sources)

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

The MEDLINE database, the Cochrane Library, and the American College of Obstetricians and Gynecologists' (ACOG's) own internal resources and documents were used to conduct a literature search to locate relevant articles published between January 1990 and February 2011. The search was restricted to articles published in the English language. Priority was given to articles reporting results of original research, although review articles and commentaries also were consulted. Abstracts of research presented at symposia and scientific conferences were not

considered adequate for inclusion in this document. Guidelines published by organizations or institutions such as the National Institutes of Health and the American College of Obstetricians and Gynecologists were reviewed, and additional studies were located by reviewing bibliographies of identified articles.

Number of Source Documents

Not stated

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Studies were reviewed and evaluated for quality according to the method outlined by the U.S. Preventive Services Task Force.

I Evidence obtained from at least one properly designed randomized controlled trial.

II-1 Evidence obtained from well-designed controlled trials without randomization.

II-2 Evidence obtained from well-designed cohort or case-control analytic studies, preferably from more than one center or research group.

II-3 Evidence obtained from multiple time series with or without the intervention. Dramatic results in uncontrolled experiments also could be regarded as this type of evidence.

III Opinions of respected authorities, based on clinical experience, descriptive studies, or reports of expert committees.

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review

Description of the Methods Used to Analyze the Evidence

Not stated

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

Analysis of available evidence was given priority in formulating recommendations. When reliable research was not available, expert opinions from obstetrician-gynecologists were used. See also the "Rating Scheme for the Strength of Recommendations" field regarding Grade C recommendations.

Rating Scheme for the Strength of the Recommendations

Based on the highest level of evidence found in the data, recommendations are provided and graded according to the following categories:

Level A - Recommendations are based on good and consistent scientific evidence.

Level B - Recommendations are based on limited or inconsistent scientific evidence.

Level C - Recommendations are based primarily on consensus and expert opinion.

Cost Analysis

The guideline developer reviewed published cost analyses.

Method of Guideline Validation

Internal Peer Review

Description of Method of Guideline Validation

Practice Bulletins are validated by two internal clinical review panels composed of practicing obstetrician-gynecologists generalists and sub-specialists. The final guidelines are also reviewed and approved by the American College of Obstetricians and Gynecologists (ACOG) Executive Board.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see the "Major Recommendations" field).

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Appropriate breast cancer screening using mammography and other screening techniques

Potential Harms

Potential Adverse Consequences of Screening Mammography

Potential adverse outcomes of breast cancer screening mammography include false-positive mammograms, false-negative mammograms, and overdiagnosis. Concerns about the risk of radiation exposure (e.g., induction of breast cancer from radiation exposure) have largely been decreased by improvements in mammography technique, technology, and clinical experience.

False-positive mammograms (i.e., those with perceived abnormalities requiring further evaluation to verify that the lesion is not cancer) are a continuing concern. False-positive screening mammograms require diagnostic mammography with supplementary views, ultrasonography, and even biopsy in 20–30% of cases in an attempt to reach an accurate diagnosis. Psychosocial consequences of screening mammography, such as anxiety and distress, have been identified, reviewed, and are generally short-lived and not severe. Studies evaluating the effect of false-positive results suggest that women in the United States are highly tolerant of false-positive mammograms, and that women who experience a false-positive mammogram are more likely than women with a normal result to adhere to routine screening in the future. Women with false-positive results were more likely to have anxiety about developing breast cancer, but not at a demonstrably pathologic level.

Qualifying Statements

Qualifying Statements

The information is designed to aid practitioners in making decisions about appropriate obstetric and gynecologic care. These guidelines should not be construed as dictating an exclusive course of treatment or procedure. Variations in practice may be warranted based on the needs of the individual patient, resources, and limitations unique to the institution or type of practice.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Implementation Tools

Foreign Language Translations

Patient Resources

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Staying Healthy

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

American College of Obstetricians and Gynecologists (ACOG). Breast cancer screening. Washington (DC): American College of Obstetricians and Gynecologists (ACOG); 2011 Aug. 11 p. (ACOG practice bulletin; no. 122). [54 references] PubMed

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2003 Apr (revised 2011 Aug)

Guideline Developer(s)

American College of Obstetricians and Gynecologists - Medical Specialty Society

Source(s) of Funding

American College of Obstetricians and Gynecologists (ACOG)

Guideline Committee

American College of Obstetricians and Gynecologists (ACOG) Committee on Practice Bulletins-Gynecology

Composition of Group That Authored the Guideline

American College of Obstetricians and Gynecologists (ACOG) committees are created or abolished and their overall function defined by the Executive Board. Appointments are made for one year, with the understanding that such appointment may be continued for a total of three years. The majority of committee members are Fellows, but Junior Fellows also are eligible for appointment. Some committees may have representatives from other organizations when this is particularly appropriate to committee activities. The president elect appoints committee members annually.

Financial Disclosures/Conflicts of Interest

Not stated

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: American College of Obstetricians and Gynecologists (ACOG). Breast cancer screening. Washington (DC): American College of Obstetricians and Gynecologists (ACOG); 2003 Apr. 12 p. (ACOG practice bulletin; no. 42).

Guideline Availability

Electronic copies: Not available at this time.

Print copies: Available for purchase from the American College of Obstetricians and Gynecologists (ACOG) Distribution Center, PO Box 933104, Atlanta, GA 31193-3104; telephone, 800-762-2264, ext. 192; e-mail: sales@acog.org. The ACOG Bookstore is available online at the ACOG Web site.

Availability of Companion Documents

None available

Patient Resources

The following is available:

- Mammography. Patient education pamphlet. American College of Obstetricians and Gynecologists (ACOG); 2011. Electronic copies: Available from the ACOG Web site. Also available in Spanish.

Print copies: Available for purchase from the ACOG Distribution Center, PO Box 933104, Atlanta, GA 31193-3104; telephone, 800-762-2264, ext. 192; e-mail: sales@acog.org. The ACOG Bookstore is available online at the ACOG Web site .

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC Status

This summary was completed by ECRI on February 4, 2004. The information was verified by the guideline developer on July 26, 2004. The information was reaffirmed by the guideline developer in 2006 and updated by ECRI Institute on February 8, 2010. This NGC summary was updated by ECRI Institute on August 22, 2011.

Copyright Statement

Disclaimer

NGC Disclaimer